

In the Matter of:)
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Amendment of Part 97 of the Commission's) **RM-11306**
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Rules Governing the Amateur Radio Services)

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EXECUTIVE SUMMARY: I am in favor of segmenting the Amateur Radio bands by bandwidth rather than mode, a change that has been long overdue. I believe that the nearly century of ‘Ham Radio’ history provides evidence of a positive and valuable tradition of self-regulation that has been prompted by the Federal Communications Commission. I believe this change is particularly important for modernizing Amateur Radio support for Emergency Communications (EMCOMMs), and certainly should advance the state of the Amateur Radio Art, both of which are mandated in Part 97.1. To be certain, such a *sweeping change* may rival those from spark to CW (circa 1920s), CW to voice (circa early 1930s), and AM to SSB in the late 1960s, with enthusiasts both pro and con all providing pertinent comments to enforce their argument. That said, Comments written on modern Internet blogs, and some filed with the Commission, indicate a mixture of both technically-founded and competent Comments to those more emotional, ill-informed, and less rational. The Commission is encouraged to make an evaluation of this matter in the manifest best interest of the public which includes casual ‘ham’ radio operations, the future of the Amateur Radio Service, and the public that is served.

DISCUSSION: The ARRL Petition for Rule Making, RM-11306 requests a change from “**mode of operation**” to “**occupied bandwidth**” to determine the sub-band allocation. Excerpt from the ARRL website:

"This petition seeks for the Amateur Radio Service the flexibility to experiment with new digital transmission methods and types to be developed in the future while permitting present operating modes to continue to be used for as long as there are radio amateurs who wish to use them" the League said in its petition, filed November 14. The ARRL says its suggested changes also will update the FCC's rules and eliminate the need for "cumbersome procedures" to determine whether a new digital mode is legal under Part 97."

This would have a major effect on High Frequency (HF) and limited, but positive effect also above 30 MHz where the ham bands are much wider. There have been no major changes in sub-band allotments on the HF bands in 30 years. At that time only AM, SSB, CW, RTTY and a few ≤ 500 Hz-wide digital modes (i.e. packet, Amtor, and later Clover) were in use on the HF bands. Today there are power efficient and effective slow-speed “conversational” (real-time manual typing) digital modes that occupy less than 100 Hz to multi-tone, high-rate data/image modes that could occupy as much spectrum as could be allowed. No longer restricted to simple ASCII text, these digital modes can send images, e-mail including attachments, etc., and even voice, all error-free! *We are not long from ‘multi-modes’ that will carry images, data, and voice all at the same time if given an opportunity to use them when they are developed and presented. It is time for a rules change to accommodate what is already reality, as evident from this statement by the FCC from an earlier note - June 4, 2003, in Docket 04-140:*

‘. . . We also note that amateur radio operators apparently have developed communication systems and technologies that transmit both image and data emission types and that they are using these systems for communicating. For this reason, we are persuaded that our Rules are not in harmony with current emission and operating practices and that our Rules may be impeding amateur radio operators in advancing the radio art."

This change would facilitate experimentation into more efficient means of higher information rate/throughput for bandwidth occupied which will benefit image, e-mail, and digital voice systems by leaving a much smaller footprint, and which will ultimately enhance our capability to effectively provide emergency communications. Because the plan would place similar-bandwidth modes in the same sub-band, there would be less interference between dissimilar modes, the purpose of a self-regulated volunteer band plan.

COMMENTS: As is already prevalent in rest of the telecommunications industry today, it is likely that over the next decade digital protocols and systems will be replacing analog protocols for many forms of communication on the Amateur Radio bands. Exciting new digital modes will bring Ham Radio into the 21st Century, especially on the HF bands below 30 MHz. Bandwidth is at a premium in these narrow and often crowded amateur bands and more efficient means of information rate/transfer vs. bandwidth is the key to improved communications success. The current proposal is a step in the right direction as it will facilitate more investigation, experimentation, and development of digital techniques. Where the narrow bandwidth conversational modes and wider-bandwidth high-speed modes are in the same sub-band, unavoidable interference often prevails, and neither protocol type is as efficient as could be were each in sub-bands with modes of similar bandwidth. Segregating like-bandwidth devices into sub-bands of appropriate width to accommodate reasonable communication by all will minimize mixed-protocol interference.

While accommodating 'legacy' modes (i.e. the ARRL's 'present operating modes') is important, some caution needs to be applied. Not unlike the general population, those in the Amateur service do not easily accommodate change. However, as new ideas become more tested and accepted, and as equipment for implementation more readily available, the Amateur radio community comes around, else there would still be 'spark' and wide-spread AM radiotelephone rather than SSB on the HF ham bands.

A major concern is the required deletion of existing Part 97.221. (c) Considering the nature of RM-11306 which acknowledges the need for experimentation with high-speed error-correcting wider bandwidth modes, Part 97.221(c) is obviously now out of date as it was developed at a time when digital modes under “local or remote” control exceeding 500 Hz bandwidth were not available. Experimentation with modern higher speed, even mixed media techniques will be severely stifled with this 500 Hz bandwidth restriction, thereby negating the basic premise of RM-11306.

It is with these comments I support the basic premises in RM-11306 and recommend their adoption.

BACKGROUND: I have held an Amateur Radio license continuously since 1952 with successive station licenses WN8KCN, W8KCN, W5NML, W0LRN, and N0IA circa 1973 when I attained the Amateur Extra grade. Over the first 30 years or so my main on-the-air interest was using Morse code (CW) ‘handling third party traffic’ and EMCOMMs planning at the local level. Since then ‘digital’ modes, first RTTY HF/VHF (“Autostart”) then Packet HF/VHF, and subsequently AMTOR captured my interest for more automated, faster, and error-correcting methods, especially in support of EMCOMMs. For more than 15 years, with the advent of personal computing, I have been associated with the APLINK, WINLINK, and now WINLINK 2000 (WL2K) systems as a mail box operator (MBO, PMBO, RMS) first with AMTOR then Pactor modes on HF and packet on vhf. Over the past three years I have provided consultation to the “WL2K Development Team” and various ARRL committees regarding digital mode applications to emergency communications at the local and national levels. Over the past nine years since retiring to E. Central Florida, I have been instrumental in refurbishing the Florida Layered Packet Network and upgrading it and the knowledge of local amateur radio operators for applications of digital modes to emergency communications. I regularly conduct workshops for digital emergency communications applications throughout the state. Recently I started an internet group (YAHOO GROUP) to provide detailed instructions for loading and configuring the computer software to utilize Winlink 2000 for ‘E-mail Over Ham

Radio.' By its immediate success, the interest in such digital applications is obvious. I am a "Lifetime Member" of the ARRL, having been a member for more than fifty years. Prior to retirement, my professional work as a petrophysicist included 26 years in the oil industry in research, and exploration/production, and nine years in high-level nuclear waste disposal investigations. I have no pecuniary interest in matters involved in this proposal.

Respectfully submitted,

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